

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

Commissioner
US Department of Commerce
United States Patent and Trademark
Office, PCT
2011 South Clark Place Room
CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing:

04 January 2001 (04.01.01)

International application No.:

PCT/GB00/02503

Applicant's or agent's file reference:

BD/P500668

International filing date:

29 June 2000 (29.06.00)

Priority date:

29 June 1999 (29.06.99)

Applicant:

BRIAN, Arthur, Clarke

1. The designated Office is hereby notified of its election made:



in the demand filed with the International preliminary Examining Authority on:

29 November 2000 (29.11.00)



in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was



was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer:

J. Zahra

Telephone No.: (41-22) 338.83.38

PCT

**NOTIFICATION OF THE RECORDING
 OF A CHANGE**

(PCT Rule 92bis.1 and
 Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

DEMPSTER, Benjamin, John, Naftel
 Withers & Rogers
 Golding House
 2 Hays Lane
 London SE1 2HW
 ROYAUME-UNI

Date of mailing (day/month/year) 14 December 2001 (14.12.01)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference BD/P500668	
International application No. PCT/GB00/02503	International filing date (day/month/year) 29 June 2000 (29.06.00)

1. The following indications appeared on record concerning:

☒ the applicant ☒ the inventor ☐ the agent ☐ the common representative

Name and Address

BRIAN, Arthur, Clarke
 13 Waveney Close
 Bicester OX6 8GP
 United Kingdom

State of Nationality

State of Residence

Telephone No.

Facsimile No.

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person ☒ the name ☐ the address ☐ the nationality ☐ the residence

Name and Address

CLARKE, Brian, Authur
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State of Nationality

State of Residence

Telephone No.

Facsimile No.

Teleprinter No.

3. Further observations, if necessary:

Correction of indication of the name of inventor and applicant.

4. A copy of this notification has been sent to:

☒ the receiving Office ☐ the designated Offices concerned
☐ the International Searching Authority ☒ the elected Offices concerned
☐ the International Preliminary Examining Authority ☐ other:

The International Bureau of WIPO
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Facsimile No.: (41-22) 740.14.35

Authorized officer

Anman QIU

Telephone No.: (41-22) 338.83.38

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
4 January 2001 (04.01.2001)

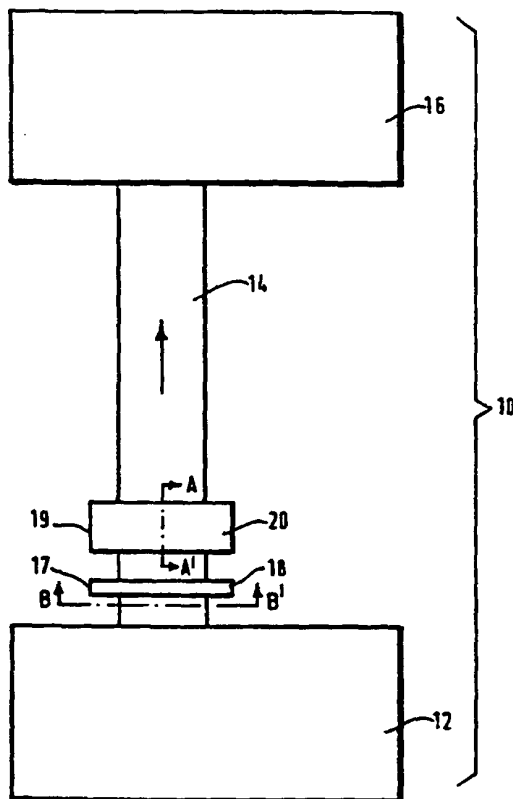
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WO 01/00035 A1

- (51) International Patent Classification⁷: **A21D 13/00**, 8/02, A21C 9/04, A21D 13/08
- (21) International Application Number: **PCT/GB00/02503**
- (22) International Filing Date: **29 June 2000 (29.06.2000)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:
9915016.1 29 June 1999 (29.06.1999) **GB**
- (71) Applicant (for all designated States except US):
WILLIAM PRICE AND SONS LTD. [GB/GB]; 38
Raleigh Street, Walsall, West Midlands WS2 8LB (GB).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **BRIAN, Arthur, Clarke** [GB/GB]; 13 Waveney Close, Bicester OX6 8GP (GB).
- (74) Agents: **DEMPSTER, Benjamin, John, Naftel et al.**;
Withers & Rogers, Golding House, 2 Hays Lane, London
SE1 2HW (GB).
- (81) Designated States (national): **AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.**
- (84) Designated States (regional): **ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian**

[Continued on next page]

(54) Title: **METHOD AND APPARATUS TO PROVIDE MARKING ON BREAD**



(57) Abstract: Apparatus (10) is for use in making bread to provide marking on the resulting bread. The apparatus (10) comprises a proving box (12), an oven (16) and a conveyor (14) to convey dough from the proving box (12) to the oven (16). Nozzles (18) on a gantry (17) over the conveyor belt (14) spray water on to a surface of the dough for the bread on the conveyor belt (14). A vibration hopper (20) on a second gantry (19) downstream of the first deposits flour through a stencil (28) onto the dough on the conveyor belt (14) so that flour is retained by the moisture on the dough in a pattern determined by the stencil (28).



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patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— With international search report.

— Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

METHOD AND APPARATUS TO PROVIDE MARKING ON BREAD

The invention relates to a method and apparatus for use in making bread to
5 provide marking on the resulting bread.

It is known to indent a word into the side of a baking tin in which dough is
baked to make bread so that the resulting bread has the word spelt out in
relief. It can be difficult to make out the word created in this way.

10

According to one aspect of the invention, there is provided a method for
use in making bread to provide marking on the resulting bread, the method
comprising the steps of depositing moisture on a surface of the dough for
the bread, depositing flour or the like on the said surface of the dough, one
15 or both of the flour or the like and the moisture being deposited in a
desired predetermined pattern so that flour is retained by moisture on the
dough in a predetermined pattern, and baking the dough.

In this way, a word, picture or other desired pattern can be produced on
20 the bread and the use of flour or the like results in a pale contrast with the
remainder of the loaf so that the word, picture or other pattern is readily
understood or recognised. Furthermore, even if the pattern is rubbed, as
the process results in the pattern being shallowly indented, flour tends to
remain at the edges of the pattern where there is an abrupt change in the
25 surface level so that the contrasting pattern is still clear in outline.

The term "flour or the like" is intended to include wheat flour as well as corn flour, starches and flour substitutes.

The moisture is preferably water or principally water. In another
5 embodiment the moisture is milk or a mixture of milk and water. In a further embodiment the moisture is a combination of egg and water and in a further embodiment the moisture is a solution of sugar or the like in water.

10 The method may include the step of proving the dough for the bread and the moisture may be deposited during proving for example as a result of raised humidity, or may be deposited after proving. The moisture may be deposited in any suitable manner and may be deposited by spraying.

15 Preferably the flour is deposited in a predetermined pattern. The flour or the like may be deposited on the dough in any desired manner and may be deposited through a stencil to achieve the predetermined pattern. Preferably, the stencil is arranged less than 3cm from the surface of the dough.

20

According to another aspect of the invention, there is provided apparatus for use in making bread to provide marking on the resulting bread, the apparatus comprising an oven, means defining a pathway to the oven, means on the pathway upstream of the oven for depositing moisture on a
25 surface of the dough for the bread, and means on the pathway between the moisture depositing means and the oven for depositing flour or the like on the said surface of the dough, one or both of the moisture depositing means and the flour depositing means being arranged to deposit in a

predetermined pattern so that flour is retained by moisture on the dough in a predetermined pattern.

The moisture depositing means may take any suitable form and may
5 comprise a proving box. In another embodiment, the moisture depositing means comprises means for spraying moisture onto the dough.

Preferably the flour depositing means is arranged to deposit in a predetermined pattern. The means to deposit the flour or the like may take
10 any suitable form and may include a stencil. The stencil is preferably arranged less than 3cm from the anticipated level of the surface of the dough. The flour depositing means may include vibration means. The vibration means is preferably arranged to vibrate substantially in the direction of intended deposition. This reduces any lack of definition in the
15 pattern due to the vibration.

The apparatus may include conveying means for conveying dough along the pathway, the conveying means defining the pathway. The conveying means may comprise a conveyor belt. The apparatus may include means to stop the movement of the dough along the pathway when the dough is
20 aligned with the means for depositing flour. Where conveying means is provided, the apparatus may include means to stop the conveying means when the dough is aligned with the means for depositing flour. The stopping means may include a sensor to sense the position of the dough and the sensor may include a photocell.

25

According to another aspect of the invention, there is provided a kit for use in making bread to provide marking on the resulting bread, the kit comprising means for depositing moisture on a surface of the dough for

the bread and means for depositing flour or the like on the said surface of the dough, one or both of the moisture depositing means and the flour depositing means being arranged to deposit in a predetermined pattern so that flour is retained by moisture in the dough, in a predetermined pattern.

5

An embodiment of the invention will now be described by way of example and with reference to the accompanying drawings, in which:

Fig. 1 is a schematic plan view of the apparatus of the embodiment of the invention;

Fig. 2 is a detail side elevation at A-A' of the apparatus of Fig. 1; and,

Fig. 3 is an end elevation in partial cross-section at B-B' of the apparatus of Fig. 1.

15 The apparatus 10 of the embodiment as shown in Fig. 1 includes a proving box 12 and a conveyor belt 14 to convey dough from the proving box 12 to an oven 16 in the direction of the arrow. There are two gantries 17, 19 spanning the conveyor belt 14. The first gantry 17, which is adjacent the proving box 12, supports a plurality of water spraying nozzles 18 over the
20 conveyor belt 14. The second gantry 19, which is adjacent the first gantry 17, supports a vibration hopper 20 shown in more detail in Fig. 2.

The vibration hopper 20 consists of an open topped hopper 22 to be agitated by a pneumatic ram 24 located on one side of the hopper 22 and
25 arranged to vibrate the hopper 22 in a substantially vertical direction. The hopper 22 consists of continuous side walls 26 which are angled slightly outwardly and a horizontal floor. The horizontal floor of the hopper 22 is formed of a stencil 28 which may for example include two groups of

apertures, each in a pattern to spell out the word "organic". The stencil 28 is preferably very accurately cut and may be laser cut from sheet metal which may be several millimetres thick. A sieve 30 is located above the stencil 28 and entirely covers the floor of the hopper 22. A powered
5 agitator 31 is provided above the sieve 30 to agitate flour in the hopper 22 to prevent compacting of the flour.

A photocell sensor 32 is supported on the vibration hopper gantry 19 to sense interruption of a horizontal light beam passing across the conveyor
10 belt 14.

In use, dough will be made up and put on trays 34. Pieces of dough 36 on the trays 34 will arrive in the proving box 12. After proving at raised humidity and temperature, each tray 34 is transported out of the proving
15 box 12 on the conveyor belt 14 to pass under the first gantry 17 which emits a continuous fine spray of water from the spraying nozzles 18 to leave a continuous uniform layer of water on the upper surface of the pieces of dough 36. The conveyor belt 14 continues to move until the leading edge of one of the pieces of dough 36 interrupts the light beam to
20 the photosensor 32. The photosensor 32 thus sends a signal to the motor (not shown) operating the conveyor belt 14 so that the motor stops the conveyor belt 14. In this position, two pieces of dough 36 on the tray 34 are aligned with the vibration hopper 22 underneath the stencil 28. Once the conveyor belt 14 has stopped, a signal is sent to the pneumatic cylinder
25 24 to vibrate the hopper 22 which results in flour passing through the sieve 30 and through the stencil 28 to be deposited on the moist upper surface of the two pieces of dough. Each piece of dough 36 thus receives flour in a pattern to spell the word "organic". The vertical distance X in

Fig. 2 between the top of the two pieces of dough 36 and the lower surface of the stencil 28 is controlled to be about 30mm. After the flour has been deposited, the vibration is stopped, the conveyor belt 14 is started again by its motor and the next two pieces of dough on a tray come forwards.

5

The dough is conveyed by the conveyor belt 14 into the oven 16 to be baked and the flour which has stuck to the moist surface of the dough is baked on. It thus forms a white or off-white pattern on the brown surface of the loaf which is clearly legible. The area of the surface of the dough
10 where the flour is received will not rise as well as the dough around it and so there is a slight indentation under the flour. Thus, if the flour is rubbed off the marking will remain as an indentation. In any case, as the pattern is hard edged there tends to be a lip at the edges which acts to retain flour even if flour has been rubbed off elsewhere so that the pattern remains in
15 outline at least.

In another embodiment, the humidity of the proving box 12 is so high that a continuous layer of moisture results and the first gantry 17 and water spraying nozzles 18 are not required.

20

In a further embodiment, the water may be sprayed to cover only a narrow strip along the centre of each piece of dough 36 where the flour is to be deposited.

25 In another embodiment the water may be applied by contact with an absorbent body such as a brush or sponge.

The stencil 28 may spell any desired word or may define a picture or abstract design for example.

While an automated system has been described, the method could be
5 carried out under manual control.

CLAIMS

1. A method for use in making bread to provide marking on the resulting bread, the method comprising the steps of depositing moisture
5 on a surface of the dough for the bread, depositing flour or the like on the said surface of the dough, one or both of the flour or the like and the moisture being deposited in a desired predetermined pattern so that flour is retained by moisture on the dough in a predetermined pattern, and baking the dough.
- 10 2. A method as claimed in claim 1, wherein the moisture is water or principally water.
3. A method as claimed in claim 1, wherein the moisture is milk or a
15 mixture of milk and water.
4. A method as claimed in claim 1, wherein the moisture is a combination of egg and water.
- 20 5. A method as claimed in claim 1, wherein the moisture is a solution of sugar or the like in water.
6. A method as claimed in any preceding claim, wherein the method includes the step of proving the dough for the bread and the moisture is
25 deposited during proving.
7. A method as claimed in claim 6, wherein the moisture is deposited by means of raised humidity.

8. A method as claimed in any of claims 1 to 5, wherein the method includes the step of proving the dough for the bread and the moisture is deposited after proving.
- 5 9. A method as claimed in any of claims 1 to 5, wherein the moisture is deposited by spraying.
- 10 10. A method as claimed in any preceding claim, wherein the flour is deposited in a predetermined pattern.
11. A method as claimed in claim 10, wherein the flour or the like is deposited through a stencil to achieve the predetermined pattern.
- 15 12. A method as claimed in claim 11, wherein the stencil is arranged less than 3cm from the surface of the dough.
- 20 13. Apparatus for use in making bread to provide marking on the resulting bread, the apparatus comprising an oven, means defining a pathway to the oven for dough for bread, means on the pathway for depositing moisture on a surface of the dough for the bread, and means on the pathway between the moisture depositing means and the oven for depositing flour or the like on the said surface of the dough, one or both of the moisture depositing means and the flour depositing means being
25 arranged to deposit in a predetermined pattern so that flour is retained by moisture on the dough in a predetermined pattern.

14. Apparatus as claimed in claim 13, wherein the moisture depositing means comprises a proving box.

15. Apparatus as claimed in claim 13, wherein the moisture depositing means comprises means for spraying moisture onto the dough.

16. Apparatus as claimed in claims 13, 14 or 15, wherein the flour depositing means is arranged to deposit in a predetermined pattern.

17. Apparatus as claimed in claim 16, wherein the means to deposit the flour or the like includes a stencil.

18. Apparatus as claimed in claim 17, wherein the stencil is arranged less than 3cm from the anticipated level of the surface of the dough.

19. Apparatus as claimed in any of claims 13 to 18, wherein the flour depositing means includes vibration means.

20. Apparatus as claimed in claim 19, wherein the vibration means is arranged to vibrate substantially in the direction of intended deposition.

21. Apparatus as claimed in any of claims 13 to 20, wherein the apparatus includes conveying means for conveying dough along the pathway, the conveying means defining the pathway.

22. Apparatus as claimed in any of claims 13 to 21, wherein the apparatus includes means to stop the movement of the dough along the pathway when the dough is aligned with the means for depositing flour.

23. Apparatus as claimed in claim 22, wherein where conveying means is provided, the apparatus includes stopping means to stop the conveying means when the dough is aligned with the means for depositing flour.

5

24. Apparatus as claimed in 23, wherein the stopping means includes a sensor to sense the position of the dough.

10

25. Apparatus as claimed in 24, wherein the sensor includes a photocell.

15

26. A kit for use in making bread to provide marking on the resulting bread, the kit comprising means for depositing moisture on a surface of the dough for the bread and means for depositing flour or the like on the said surface of the dough, one or both of the moisture depositing means and the flour depositing means being arranged to deposit in a predetermined pattern so that flour is retained by moisture on the dough in a predetermined pattern.

20

27. A kit as claimed in claim 26, wherein the moisture depositing means comprises means for spraying moisture onto the dough.

25

28. A kit as claimed in claim 26 or claim 27, wherein the flour depositing means is arranged to deposit in a predetermined pattern.

29. A kit as claimed in claim 28, wherein the means to deposit the flour or the like includes a stencil.

30. A kit as claimed in any of claims 26 to 29, wherein the flour depositing means includes vibration means.
31. A kit as claimed in claim 30, wherein the vibration means is arranged to vibrate substantially in the direction of intended deposition.
32. A kit as claimed in any of claims 26 to 31, wherein the kit includes conveying means for conveying dough along a pathway.
33. A kit as claimed in claim 32, wherein the kit includes stopping means to stop the conveying means when the dough is aligned with the means for depositing flour.
34. A kit as claimed in claim 33, wherein the stopping means includes a sensor to sense the position of the dough.
35. A kit as claimed in claim 34, wherein the sensor includes a photocell.

1/2

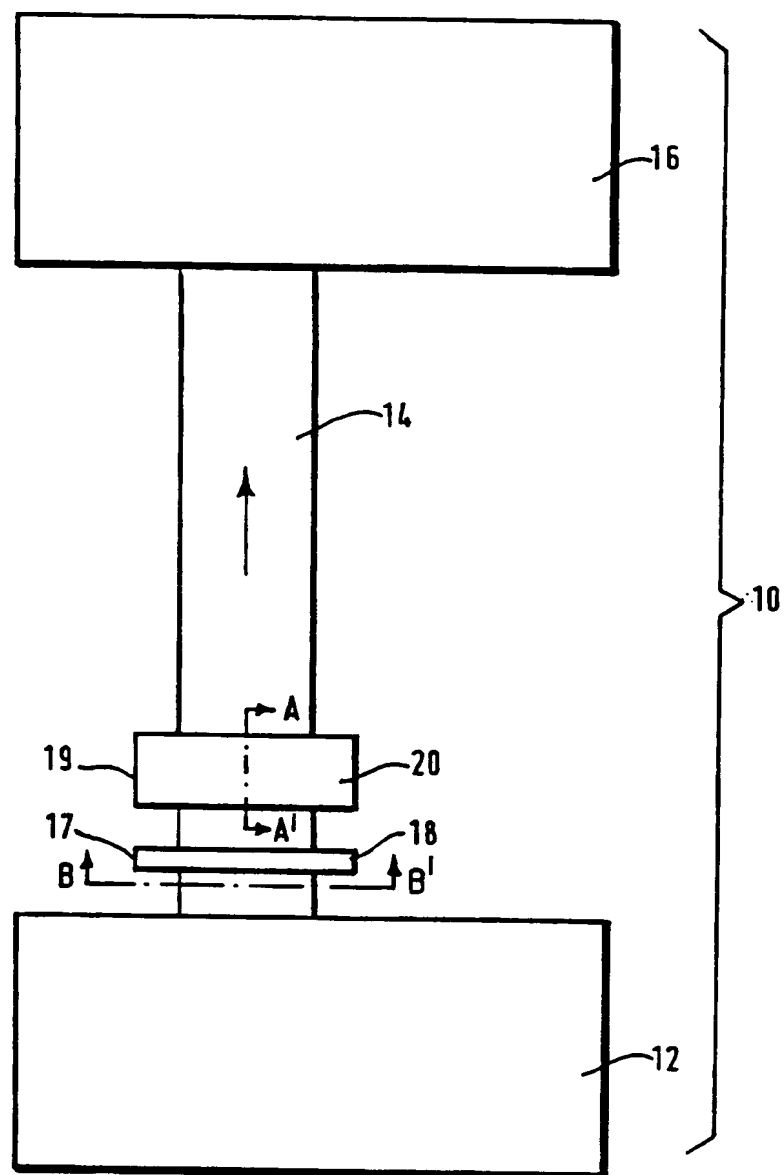


Fig.1.

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A21D13/00 A21D8/02 A21C9/04 A21D13/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A21D A21C A23G A23P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, EPO-Internal, PAJ, FSTA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>GB 2 177 585 A (VINCENT PROCESSES LIMITED) 28 January 1987 (1987-01-28)</p> <p>figure 2 page 1, line 5-23,44-50,95-119 page 2, line 25-29,64-75 page 3, line 22-36,65-73 claims 1,9,11-13,16,24,27-29</p> <p>---</p> <p>-/--</p>	<p>1,2,8, 10,11, 13,16, 17,21, 26,28, 29,32</p>



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

17 October 2000

Date of mailing of the international search report

24/10/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
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Authorized officer

Piret-Viprey, E

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 759 606 A (BROWN ROBERT W ET AL) 2 June 1998 (1998-06-02) column 2, line 62 -column 3, line 15 claims 1,2	1,2,8, 10,11, 13,16, 17,21, 26,28, 29,32
A	GB 2 299 741 A (EYETHORNE LTD) 16 October 1996 (1996-10-16) figure 1 page 4, line 13-18 page 9, line 15-20 claims 1,7	1,2,8,9, 13,15, 26,27
A	GB 2 291 578 A (PENMOY HOLDINGS LTD) 31 January 1996 (1996-01-31) page 2, line 5 -page 4, line 29 claim 1	1,11,13, 17,26,29
A	DE 39 13 308 A (REGENSBURGER MARCUS) 25 October 1990 (1990-10-25) the whole document	1,11,13, 17,26,29

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No


PCT/GB 00/02503

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
GB 2177585	A	28-01-1987	NONE		
US 5759606	A	02-06-1998	NONE		
GB 2299741	A	16-10-1996	IE	960202 A	16-10-1996
GB 2291578	A	31-01-1996	IE	940590 A	14-06-1995
			IE	950535 A	24-01-1996
DE 3913308	A	25-10-1990	NONE		

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference BD/P500668PCT/23		FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/GB00/02503	International filing date (day/month/year) 29/06/2000	Priority date (day/month/year) 29/06/1999	
International Patent Classification (IPC) or national classification and IPC A21D13/00			
Applicant WILLIAM PRICE AND SONS LTD. et al.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input checked="" type="checkbox"/> Certain defects in the international application VIII <input checked="" type="checkbox"/> Certain observations on the international application 			
Date of submission of the demand 29/11/2000		Date of completion of this report 04.10.2001	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized officer Heirbaut, M Telephone No. +49 89 2399 8642	



I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-7 as originally filed

Claims, No.:

1-35 as originally filed

Drawings, sheets:

1/2-2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB00/02503

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-12
	No:	Claims	13-35
Inventive step (IS)	Yes:	Claims	1-12
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-35
	No:	Claims	

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

V

- 1 Reference is made to the following document (D):

D1: GB-A-2 177 585

- 2 The subject-matter of present independent claim 1 (method) meets the requirements of novelty (Article 33(2) PCT).

None of the prior art documents cited in the international search report teaches the subject-matter having the combination of features indicated in said claim, in particular the application of the method on a bread dough and the use of flour as a coating material.

- 3 The subject-matter of present independent claims 13 (apparatus) and 26 (kit) does not meet the requirements of novelty (Article 33(2) PCT) in the light of prior art document D1.

Document D1 teaches an apparatus for coating an assimilable product comprising a source of coating material, means operable to form the coating material into a stream having a given velocity, and means operable to move the product into the stream of coating material, whereby the coating material is captured by the surface of the product, in which means are provided for moistening the product before the coating material is applied, whereby penetration of the coating material is facilitated, and in which only a given area of the food product is coated, and the coating material is applied through a template which is designed so as to define the given area of the product to be coated which may be in the form of lettering, figuring or other indicia or patterns, after which a heat treatment may be applied to fuse the coating material when applied to the product (see in particular claim 29 of D1).

It is stressed that a claim for an apparatus for a particular use (ie for marking bread) should be construed as meaning a composition which is in fact suitable for the stated use (PCT Guidelines C-III, 4.8). It is considered that the apparatus disclosed in document D1 is suitable for said use.

- 4 The subject-matter of present independent claim 1 meets the requirements of inventive step (Article 33(3) PCT).

Document D1, considered to represent the closest prior art, discloses a method for coating of food products, in which the product is subjected to a stream of coating material, the velocity of which is such that the coating material is captured by the surface of the product and remains so throughout subsequent storage and handling (see in particular claim 1 of D1). The food product may be moistened before the coating material is applied, whereby penetration of the coating material is facilitated, and in which only a given area of the food product is coated, and the coating material is applied through a template which is designed so as to define the given area of the product to be coated which may be in the form of lettering, figuring or other indicia or patterns, after which a heat treatment may be applied to fuse the coating material when applied to the product (see in particular claim 12 of D1).

The subject-matter of present claim 1 differs from the teaching of document D1 in the selection of bread as a food product and of flour as a coating material.

The technical problem facing the skilled person at the priority date of the present application was to provide a method for marking of bread alternative to prior art methods, which remains visible even if the pattern is rubbed (see page 1, lines 4-5 and 22-25 of the present description).

The solution provided in present claim 1 consists of the selection of bread as a food product and of flour as a coating material, applying the method taught by document D1. However, there is no indication in the cited prior art documents that would have lead the skilled person to expect that the dough would not rise quite so far in the area coated with flour, thus creating a shallow indentation, leaving the flour pattern at the edges after rubbing because of the abrupt change in surface level there.

- 5 Dependent claims 14-25 and 27-35 do not contain any features which, in combination with the features of present independent claims 13 and 26 to which they refer, meet the requirements of novelty and inventive step (Articles 33(2) and

33(3) PCT).

VII

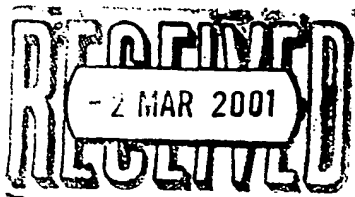
- 1 The present application does not meet the requirements of Rule 5.1(a)(ii) PCT, as the relevant background art disclosed in the document D1 has not been mentioned in the description, nor has this document been identified therein.

VIII

- 1 The present application does not meet the requirements of clarity (Article 6 PCT).
 - 1.1 The expression "and the like" employed in present claims 1, 5, 11, 13, 17, 26, 29 and throughout the present description is unclear.
 - 1.2 The expression "substantially" employed in present claims 20, 31 and throughout the present description is unclear.
 - 1.3 The reference "as claimed in 23/34" in present claims 24 and 25 is unclear and has not been replaced by "as claimed in claim 23/34".

To:

DEMPSTER Benjamin J.
WITHERS & ROGERS
Goldings House
2 Hays Lane
London SE1 2HW
GRANDE BRETAGNE



PCT

WRITTEN OPINION

(PCT Rule 66)

Date of mailing
(day/month/year) 28.02.2001

Applicant's or agent's file reference

BD/P500668PCT/23

REPLY DUE within 3 month(s)
from the above date of mailing

International application No.

PCT/GB00/02503

International filing date (day/month/year)

29/06/2000

Priority date (day/month/year)

29/06/1999

International Patent Classification (IPC) or both national classification and IPC

A21D13/00

Applicant

WILLIAM PRICE AND SONS LTD. et al.

1. This written opinion is the **first** drawn up by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion
II ☐ Priority
III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
IV ☐ Lack of unity of invention
V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
VI ☐ Certain document cited
VII ☒ Certain defects in the international application
VIII ☒ Certain observations on the international application
- 2.3.01
23
30

3. The applicant is hereby **invited to reply** to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also: For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 29/10/2001.

Name and mailing address of the international preliminary examining authority:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized officer / Examiner

Heirbaut, M

Formalities officer (incl. extension of time limits)

Longo, E
Telephone No. +49 89 2399 8141



I. Basis of the opinion

1. This opinion has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed".*):

Description, pages:

1-7 as originally filed

Claims, No.:

1-35 as originally filed

Drawings, sheets:

1/2-2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary: ---

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement
- | | | |
|-------------------------------|--------|-------|
| Novelty (N) | Claims | 13-35 |
| Inventive step (IS) | Claims | 1-12 |
| Industrial applicability (IA) | Claims | |

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

V

- 1 Reference is made to the following documents (D):

D1: GB-A-2 177 585

- 2 The subject-matter of present independent claim 1 (method) meets the requirements of novelty (Article 33(2) PCT).

None of the prior art documents cited in the international search report teaches the subject-matter having the combination of features indicated in said claim, in particular the application of the method on a bread dough and the use of flour as a coating material.

- 3 The subject-matter of present independent claims 13 (apparatus) and 26 (kit) does not meet the requirements of novelty (Article 33(2) PCT) in the light of prior art document D1.

Document D1 teaches an apparatus for coating an assimilable product comprising a source of coating material, means operable to form the coating material into a stream having a given velocity, and means operable to move the product into the stream of coating material, whereby the coating material is captured by the surface of the product, in which means are provided for moistening the product before the coating material is applied, whereby penetration of the coating material is facilitated, and in which only a given area of the food product is coated, and the coating material is applied through a template which is designed so as to define the given area of the product to be coated which may be in the form of lettering, figuring or other indicia or patterns, after which a heat treatment may be applied to fuse the coating material when applied to the product (see in particular claim 29 of D1).

It is stressed that a claim for an apparatus for a particular use (ie for marking bread) should be construed as meaning a composition which is in fact suitable for the stated use (PCT Guidelines C-III, 4.8). It is considered that the apparatus disclosed in document D is suitable for said use.

- 4 The subject-matter of present independent claim 1 does not meet the requirements of inventive step (Article 33(3) PCT).

Document D1, considered to represent the closest prior art, discloses a method for coating of food products, in which the product is subjected to a stream of coating material, the velocity of which is such that the coating material is captured by the surface of the product and remains so throughout subsequent storage and handling (see in particular claim 1 of D1). The food product may be moistened before the coating material is applied, whereby penetration of the coating material is facilitated, and in which only a given area of the food product is coated, and the coating material is applied through a template which is designed so as to define the given area of the product to be coated which may be in the form of lettering, figuring or other indicia or patterns, after which a heat treatment may be applied to fuse the coating material when applied to the product (see in particular claim 12 of D1).

The subject-matter of present claim 1 differs from the teaching of document D1 in the selection of bread as a food product and of flour as a coating material.

The technical problem facing the skilled person at the priority date of the present application was to provide a method for marking of bread alternative to prior art methods (see page 1, lines 4-5 of the present description).

The solution provided in present claim 1 consists of the selection of bread as a food product and of flour as a coating material, applying the method taught by document D1. As no unexpected technical effects or advantages result therefrom, said selection is considered to be a trivial measure for the skilled person.

- 5 Dependent claims 2-12, 14-25 and 27-35 do not contain any features which, in combination with the features of present independent claims 1, 13 and 26 to which they refer, meet the requirements of novelty and inventive step (Articles 33(2) and 33(3) PCT).
- 6 If amendments are carried out, the Applicant is requested to point out where in the application as originally filed the basis for such amendments can be found (Article

34(2)(b) PCT).

- 7 Any information the Applicant may wish to submit concerning the subject-matter of the invention, for example further details of its advantages or of the problem it solves, and for which there is no basis in the application as originally filed, should be confined to the letter of reply rather than be incorporated into the application (Article 34(2)(b) PCT).
- 8 When filing amended claims, the Applicant should at the same time bring the description into conformity with the amended claims. Care should be taken during revision, especially of the introductory portion and any statements of problem or advantage, not to add subject-matter which extends beyond the content of the application as originally filed (Article 34(2)(b) PCT).

VII

- 1 The present application does not meet the requirements of Rule 5.1(a)(ii) PCT, as the relevant background art disclosed in the document D1 has not been mentioned in the description, nor has this document been identified therein.

VIII

- 1 The present application does not meet the requirements of clarity (Article 6 PCT).
 - 1.1 The expression "and the like" employed in present claims 1, 5, 11, 13, 17, 26, 29 and throughout the present description is unclear.
 - 1.2 The expression "substantially" employed in present claims 20, 31 and throughout the present description is unclear.

These objections could be overcome by deletion of said expressions or replacement thereof by a more clear expression found elsewhere in the originally filed disclosure.

- 1.3 The reference "as claimed in 23/34" in present claims 24 and 25 is unclear and should be replaced by "as claimed in claim 23/34".

European Patent Office
D-80298
München
Germany

Our Ref: P500668PCT/BJND/23
Your Ref:

25 May 2001

Dear Sirs

International Patent Application No. PCT/GB00/02503

A Method and Apparatus for use in making bread to Provide Marking on the Resulting Bread
William Price and Sons Ltd.

I refer to the Written Opinion of 28th February 2001.

The examiner has asserted that claim 1 lacks inventive step over D1. The examiner has appreciated that the subject-matter of present claim 1 differs from D1 in the selection of bread as a food product and of flour as a coating material. This combination is neither disclosed nor suggested in D1. The examiner has asserted that no unexpected technical effects or advantages result from the use of these materials but I submit that the opposite is the case. In fact, the choice of flour on bread results in important advantages which were not anticipated beforehand.

The drive to improve on existing marking methods was primarily in connection with organic bread. There was a fear that unscrupulous retailers would unbag ordinary bread and rebag it as organic in order to be able to sell it at a higher price. In order to avoid the possibility of this occurrence and heighten public confidence in the product it was necessary to provide an effective method of marking of the bread itself that was clear and could not be readily obliterated or removed. The use of flour in the method as claimed gives a very clear marking, for example, of the word "ORGANIC". The word shows up as white on the dark brown crust of the bread providing an excellent contrast. However it was also unexpectedly found that the marking was very durable. This was unexpected because it is known to sprinkle flour on dough prior to baking, but it is known that the flour can be readily rubbed off the crust. The inventor found that by depositing in a predetermined pattern, the flour was not easily removed from the bread at the edges of the pattern. This is because a shallow indentation is formed over the predetermined area during final baking. Thus, the bread does not rise quite so far in the area which is coated with flour. As a result, if the flour pattern is rubbed, it will not be removed at the edges of the pattern at least because of the abrupt change in surface level there. There is

Rel. 8(2001)

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Consultant Partner: Peter Turner

* *MITMA. All other partners C.P.A. & E.P.A.*

Associates: Christopher Hey, David Elsy, Adrian Tombling, James Gray, Joeeta Murphy, David Fry, Alex Duffield, Paul Derry, Matthew Allen, Keith Tart, Laurel McBray, Jackie Tolson, Robert Sayer, **Consultants:** Michael Adkins, David Cowan

Practice Manager: Richard Clark, **Accounts:** Mary Sturgess, **Renewals:** David Ayres (Manager), Mary Downey

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effectively a groove around the edge of the pattern and a finger used to rub the bread will not enter the groove. The pattern in outline thus remains clear. Obviously someone could go to the effort of trying to remove all of the flour, but that would be very fiddly and time consuming, it would be difficult to do without damaging the bread, and it would still leave the pattern in relief on the bread. The marking with flour in this way is thus unexpectedly durable and clear.

It is therefore submitted that there are unexpected technical advantages arising from the invention and that the invention as claimed is patentable.

I will also comment on certain of the subclaims.

It is submitted that claims 6 and 14 in particular are inventive. There is no disclosure or suggestion in the cited documents of the use of a proving box to deposit moisture for retaining flour on bread in a predetermined pattern.

It is also submitted that the use of a stencil arranged less than 3cm from the surface of the dough as claimed in claims 12 and 18 is inventive. This very close spacing is neither disclosed nor suggested in the cited documents and contributes to the high definition achieved by the invention. It ensures that the pattern is hard edged. This makes the pattern easier to see, because the edges are not smeared or blurred, and it also increases the sharpness of change in depth on the crust of the bread helping to retain the flour against rubbing.

The use of vibration in the direction of intended deposition, as claimed in claims 20 and 31, also aids the definition of the pattern. In the example shown, the hopper 20 deposits flour vertically downwards and is vibrated up and down. If it vibrated sideways it would impart a sideways velocity component to the flour passing through the stencil which would lead to smearing of the pattern.

It is therefore submitted that the invention is novel and inventive.

Yours faithfully



B.J.N. Dempster
WITHERS & ROGERS

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference BD/P500668	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/GB 00/ 02503	International filing date (day/month/year) 29/06/2000	(Earliest) Priority Date (day/month/year) 29/06/1999
Applicant WILLIAM PRICE AND SONS LTD. et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

METHOD AND APPARATUS TO PROVIDE MARKING ON BREAD

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1
☐ None of the figures.

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A21D13/00 A21D8/02 A21C9/04 A21D13/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A21D A21C A23G A23P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, EPO-Internal, PAJ, FSTA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>GB 2 177 585 A (VINCENT PROCESSES LIMITED) 28 January 1987 (1987-01-28)</p> <p>figure 2 page 1, line 5-23,44-50,95-119 page 2, line 25-29,64-75 page 3, line 22-36,65-73 claims 1,9,11-13,16,24,27-29</p> <p>---</p> <p>-/--</p>	<p>1,2,8, 10,11, 13,16, 17,21, 26,28, 29,32</p>



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

17 October 2000

Date of mailing of the international search report

24/10/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Piret-Viprey, E

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 759 606 A (BROWN ROBERT W ET AL) 2 June 1998 (1998-06-02) column 2, line 62 -column 3, line 15 claims 1,2 ----	1,2,8, 10,11, 13,16, 17,21, 26,28, 29,32
A	GB 2 299 741 A (EYETHORNE LTD) 16 October 1996 (1996-10-16) figure 1 page 4, line 13-18 page 9, line 15-20 claims 1,7 ----	1,2,8,9, 13,15, 26,27
A	GB 2 291 578 A (PENMOY HOLDINGS LTD) 31 January 1996 (1996-01-31) page 2, line 5 -page 4, line 29 claim 1 ----	1,11,13, 17,26,29
A	DE 39 13 308 A (REGENSBURGER MARCUS) 25 October 1990 (1990-10-25) the whole document -----	1,11,13, 17,26,29

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
GB 2177585	A	28-01-1987	NONE		
US 5759606	A	02-06-1998	NONE		
GB 2299741	A	16-10-1996	IE	960202 A	16-10-1996
GB 2291578	A	31-01-1996	IE	940590 A	14-06-1995
			IE	950535 A	24-01-1996
DE 3913308	A	25-10-1990	NONE		